Appl. No. 10/698,578
Amdt. dated June 19, 2007
Reply to Office Action of March 20, 2007

PATENT

REMARKS/ARGUMENTS

Claims 3-9, 12, 13, and 18-23 are pending in this application, with claims 1, 2, 10, 11, and 14-17 being withdrawn as directed to a non-elected invention. No claims have been amended, canceled, or added. Reconsideration of the rejected claims is respectfully requested.

Objection to Claims 21-23

Claims 21-23 are objected to as being dependent upon a rejected base claim but would be allowable if rewritten in independent form.

Applicants appreciate the Examiner's indication of allowable subject matter in these claims. However, as discussed in further detail below, Applicants respectfully submit that independent claim 21, upon which claims 21-23 depend, is allowable over the cited prior art. Accordingly, Applicants respectfully submit that claims 21-23 are allowable in their present form.

35 U.S.C. §102(e) Rejection of Claims 3, 4, 12, 13, and 18-20

Claims 3, 4, 12, 13, and 18-20 are rejected under 35 U.S.C. §102(e) as being anticipated by Chen (U.S. Publication No. 2003/0123352) (hereinafter "Chen"). Applicants respectfully submit that Chen does not disclose each feature of the claims.

Independent claim 3 is directed to a method for controlling a writing waveform that is used to write information to an optical disk in an optical disk apparatus. The method includes determining a writing waveform parameter for one or more write speeds between a highest write speed and a lowest write speed, where the determining is based on a first writing waveform parameter that is optimum for the highest write speed, a second writing waveform parameter that is optimum for the lowest write speed, and a third writing waveform parameter that is optimum for a middle write speed between the highest and lowest write speeds. Thus, the method of claim 3 relies on three distinct waveform parameters to determine an optimum waveform parameter for an intermediate write speed.

Claim 3 accordingly recites, in part:

> based on information on at least a <u>first writing waveform parameter</u> and
> a <u>second writing waveform parameter</u> optimum for a highest write speed and a lowest
> write speed, respectively, and a <u>third writing waveform parameter</u> optimum for a middle
> speed therebetween, deriving a writing waveform parameter for each speed between said
> highest speed and said lowest speed.
>
> (Applicants' claim 3, in part; emphasis added).

At least the above features are not disclosed by Chen.

Chen relates to a technique for controlling the laser writing power of a compact disc recorder. (Chen: Abstract). The method of Chen includes selecting two initial reference linear velocities Va and Vf for a compact disc. The first initial reference velocity Va is selected from an inner radius of the disc, and the second initial reference velocity Vf is selected from an outer radius of the disc. (Chen: Para. 42; Fig. 3, 100). The method further includes determining an initial writing reference power Pa for Va and an initial writing reference power Pf for Vf. (Chen: Para. 43; Fig. 3, 102, 104). Initial reference linear velocities Va, Vf are used to interpolate a number of intermediate reference linear velocities Vb, Vc, Vd, Ve, and initial reference writing powers Pa, Pf are used to interpolate a number of intermediate reference writing powers Pb, Pc, Pd, Pe. (Chen: Para. 44; Fig. 3, 106, 108). The reference linear velocities Va, Vb, Vc, Vd, Ve, Vf and reference writing powers Pa, Pb, Pc, Pd, Pe, Pf are stored in a table as shown in Fig. 2 of Chen.

When data is ready to be written at a particular linear velocity Vw (*i.e.*, at a particular radial location) on the compact disc, the table is consulted to determine the two reference linear velocities between which Vw falls (*i.e.*, the "velocity zone" for Vw). (Chen: Para. 64; Fig. 3, 114). The reference writing powers for the two reference linear velocities comprising the "velocity zone" of Vw are then interpolated to generate a writing power Pw for Vw. (Chen: Para. 46; Fig. 2, 116). For example, if Vw falls between reference linear velocities Va and Vb, the two reference writing powers Pa and Pb would be interpolated to generate Pw.

Thus, at best, Chen discloses a method for determining a writing parameter Pw for an intermediate linear velocity Vw based on <u>only two reference parameters</u>, Px and Py

(where Px is a reference writing power for velocity Vx, Py is a reference writing power for Vy, and Vw falls within the velocity zone of Vx – Vy). In contrast, claim 3 of the present invention specifically recites deriving a writing waveform parameter based <u>three distinct writing waveform parameters</u>: a <u>first waveform parameter</u> optimum for a highest write speed, a <u>second waveform parameter</u> optimum for a lowest write speed, and a <u>third waveform parameter</u> optimum for a middle write speed. Since Chen merely discloses interpolating a writing power based on <u>two reference writing powers</u> (*e.g.*, Px and Py), which does <u>not</u> correspond to deriving a writing waveform parameter based on <u>three writing waveform parameters</u> as recited in claim 1, Applicants respectfully submit that at least this feature is not anticipated by Chen.

The Office Action asserts that Chen discloses deriving a writing waveform parameter based on first, second, and third writing waveform parameters because paragraph 50, lines 6-12 of Chen allegedly teaches that "any write speed between the inner and outer circumferences is also a reference parameter." (Office Action of March 20, 2007: pg. 3). Applicants respectfully disagree. The cited portion of Chen recites (in context):

> Although the reference table 30 of the present invention comprises a plurality of velocity zones, the target of the present invention can also be achieved by constructing two reference velocities, two corresponding reference writing powers, and two corresponding reference reflected pulses only. <u>Furthermore, the two reference linear velocities are not limited to two linear velocities at the innermost radius and the outermost radius of the compact disc 10. Any two linear velocities between the innermost radius and the outermost radius of the compact disc 10 can serve as the two reference linear velocities.</u>

(Chen: Para. 50, lines 1-12; emphasis added).

As best understood, the cited section simply describes that initial reference linear velocities Va and Vf do not have to be selected from the innermost and outermost radiuses of a compact disc. Rather, Va and Vf can be selected, for example, from radiuses that are closer to a central radial portion of the disc. This does not change the fact that <u>only two</u> parameters Px and Py (corresponding to velocity zone Vx – Vy) are used to interpolate a writing parameter Pw for an intermediate velocity Vw within zone Vx – Vy. In other words, the above section merely states that the relative locations of the two initial reference linear velocities Va and Vf may be moved. This does <u>not</u> teach or suggest that an additional third reference parameter is used to

determine a particular intermediate reference writing power. Thus, Chen completely fails to disclose or suggest "based on information on at least a <u>first writing waveform parameter</u> and a <u>second writing waveform parameter</u> optimum for a highest write speed and a lowest write speed, respectively, and a <u>third writing waveform parameter</u> optimum for a middle speed therebetween, deriving a writing waveform parameter for each speed between said highest speed and said lowest speed" as recited in claim 3. Accordingly, Applicants respectfully submit that claim 3 is allowable over Chen and request that the rejection of claim 3 be withdrawn.

Independent claims 12 and 18 recite features that are substantially similar to claim 1. Accordingly, claims 12 and 18 are allowable for at least a similar rationale as discussed for claim 3, and others.

Dependent claims 4, 13, 19, and 20 depend from claims 3, 12, and 18 respectively and are therefore allowable for at least a similar rationale as discussed for claims 3, 12, and 18, and others.

35 U.S.C. §103(a) Rejection of Claims 5-8

Claims 5-8 are rejected under 35 U.S.C. §103(a) as being unpatentable over Chen as applied to claims 3-4, 12-13 and 18-20 and further in view of Sato (U.S. Patent No. 6,563,775) (hereinafter "Sato"). Applicants respectfully submit that Chen and Sato, considered individually or in combination, do not teach or suggest the features of the claims.

Claims 5-8 depend from independent claim 3, and the rejection of claims 5-8 is premised on the assertion that Chen discloses the features recited in claim 3, and Sato discloses the remaining features of claims 5-8.

As discussed above, however, Chen does not disclose or suggest all of the features recited in independent claim 3. Sato does not provide any teaching or suggestion that would remedy these deficiencies. As best understood, Sato is directed to a system for writing information to an optical disk, where the recording power used for any given linear velocity v is calculated from a function $\theta_1(v)$ that is based on an optimum recording power for a predetermined linear velocity. (Sato: Col. 15, lines 32-67). Thus, Sato describes determining a recording power from a function based on a <u>single</u> recording parameter (the optimum recording

power for the predetermined linear velocity). Sato does teach anything about deriving a writing waveform parameter based on <u>first, second, and third</u> writing waveform parameters as recited in independent claim 3. Accordingly, Applicants respectfully submit that even if Chen were combined with Sato (although there appears to be no motivation to combine), the resultant combination would not teach or suggest the various features recited in claims 5-8. Further, Applicants respectfully submit that claims 5-8 recite additional features which are not disclosed or suggested by Chen or Sato, considered individually or in combination, and is thus patentable for additional reasons.

In view of the foregoing, Applicants respectfully request that the rejection of claims 5-8 be withdrawn.

35 U.S.C. §103(a) Rejection of Claim 9

Claim 9 is rejected under 35 U.S.C. §103(a) as being unpatentable over Chen in view of Official Notice. Applicants respectfully traverse.

Claim 9 recites features that are substantially similar to claim 3. For example, claim 9 recites in part "controlling a writing waveform on an optical disk. . . said method using a writing waveform parameter for 5X as a <u>first parameter</u>, a writing waveform for 2X as a <u>second parameter</u>; and a. . . writing waveform for 3X. . . as a <u>third parameter</u>." (Emphasis added). As discussed with respect to claim 3, this feature is not disclosed or suggested by Chen.

The deficiencies of Chen in this regard are not remedied by the Official Notice of the Office Action. Accordingly, Applicants respectfully submit that even if Chen were combined with the Official Notice (although there appears to be no motivation to combine), the resultant combination would not teach or suggest at least the above feature.

Further, claim 9 teaches additional limitations that are not disclosed by Chen or the Official Notice, considered individually or in combination. For example, claim 9 recites that the third writing waveform parameter is written on the optical disk. Applicants submit that at least this additional limitation is not taught or suggested by Chen or the Official Notice, considered individually or in combination.

The Office Action asserts that the reference linear velocity Vc of Chen corresponds to the "third writing waveform parameter" of claim 9. However, nowhere does Chen teach or suggest that the reference linear velocity Vc is written to an optical disk. Accordingly, Chen completely fails to disclose or suggest "a recommended writing waveform parameter. . . written on said disk as a third parameter" as recited in claim 9.

The deficiencies of Chen in this regard are not remedied by the Official Notice asserted in the Office Action. The Office Action merely takes Official Notice that "it was well known in the art at the time of the applicant's invention to use DVD-RAM in conjunction with CAV." (Office Action: pg. 8). Accordingly, the combination of Chen and the Official Notice fails to render obvious at least this additional limitation.

For at least the foregoing reasons, Applicants respectfully submit that claim 9 is allowable over the cited prior art and request that the rejection of claim 9 be withdrawn.

CONCLUSION

In view of the foregoing, Applicants believe all claims now pending in this Application are in condition for allowance. The issuance of a formal Notice of Allowance at an early date is respectfully requested.

If the Examiner believes a telephone conference would expedite prosecution of this application, please telephone the undersigned at 650-326-2400.

Respectfully submitted,

/Andrew J. Lee/

Andrew J. Lee
Reg. No. 60,371

TOWNSEND and TOWNSEND and CREW LLP
Two Embarcadero Center, Eighth Floor
San Francisco, California 94111-3834
Tel: 650-326-2400
Fax: 415-576-0300
AJL:mg
61061755 v1